CLAIM LISTING

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) A process for the treatment of a fibre material comprising contacting the fibre material in an aqueous medium with a chelating agent and a <u>single</u> polymer having the following general formula

wherein

R₁ is a hydrogen atom or an alkyl group containing 1 to 12 carbon atoms,

R₂ is -COOM or -CH₂COOM,

M is a hydrogen atom, an alkali metal ion, an alkaline earth metal ion, an ammonium ion or a mixture thereof,

Ι

n, m and k are molar ratios of corresponding monomers, wherein n is 0 to 0.95, m is 0.05 to 0.9, and k is 0 to 0.8, and (n+m+k) equals 1, and

the weight average molecular weight is between 500 and 20,000,000 g/mol; and

wherein the fibre material is a cellulosic fibre material comprising a chemical, mechanical or chemi-mechanical pulp or a recycled fibre material; and

wherein the weight ratio of the polymer to the chelating agent is from 1:4 to 4:1.

- 2. (Original) The process according to claim 1 wherein the chelating agent and the polymer are introduced as a mixture or the chelating agent and the polymer are introduced separately.
- 3. (Cancelled)

- 4. (Previously Presented) The process according to claim 1 wherein the treatment comprises bleaching the fibre material with an alkaline peroxide solution in the presence of the chelating agent and the polymer.
- 5. (Original) The process according to claim 4 wherein the bleaching is preceded by a treatment with a chelating agent.
- 6. (Previously Presented) The process according to claim 1, wherein the treatment comprises pretreating the fibre material in the aqueous medium comprising the chelating agent and the polymer.
- 7. (Previously Presented) The process according to claim 6 wherein the pH of the aqueous medium in the pretreatment is between 3 and 7.
- 8. (Previously Presented) The process according to claim 6 wherein the pretreatment is followed by a bleaching with a peroxygen compound optionally in the presence of the chelating agent and the polymer.
- 9. (Original) The process according to claim 8 wherein the peroxygen compound is hydrogen peroxide, peracetic acid or Caro's acid.
- 10. (Previously Presented) The process according to claim 1 wherein the fibre material comprises a recycled fibre material, and wherein the treatment further comprises de-inking the recycled fiber material in the aqueous medium comprising the chelating agent and the polymer.
- 11. (Previously Presented) The process according to any of claims 1 wherein in formula I n is 0.4 to 0.9, m is 0.1 to 0.5, and k is 0 to 0.5.
- 12. (Previously Presented) The process according to claim 1 wherein the weight average molecular weight of the copolymer is between 1,000 and 1,000,000 g/mol.

13. (Previously Presented) The process according to claim 1 wherein the total amount of the chelating agent and the polymer in the treatment is 0.05 to 10 kg per ton of dry fibre material.

14. (Cancelled)

- 15. (Previously Presented) The process according to claim 1 wherein the polymer is a copolymer of 3-allyloxy-2-hydroxypropanesulfonic acid and at least one of acrylic acid, methacrylic acid, maleic acid, itaconic acid, or a salt thereof.
- 16. (Previously Presented) The process according to claim 1 wherein the chelating agent is a compound having the following general formula

$$\begin{array}{c|c}
R_4 & & \\
& N \\
& R_3
\end{array}$$

$$\begin{array}{c}
R_7 \\
& N \\
& P_5
\end{array}$$

$$\begin{array}{c}
R_6 \\
& II
\end{array}$$

wherein

p is 0 or an integer of 1 to 10,

R₃, R₄, R₅, R₆ and R₇ are independently a hydrogen atom or an alkyl chain having 1 to 6 carbon atoms and containing an active chelating ligand.

17. (Previously Presented) The process according to claim 1 wherein the chelating agent is a compound having the following general formula

$$R_4$$
 N - $(CH_2)_q$ - N R_5 III

wherein

q is an integer of 3 to 10,

R₃, R₄, R₅ and R₆ are independently a hydrogen atom or an alkyl chain having 1 to 6 carbon atoms and containing an active chelating ligand.

18. (Previously Presented) The process according to claim 1 wherein the chelating agent is a compound having the following general formula

$$R_8 - C - R_{10}$$
 R_9

IV

wherein

 R_8 is a hydrogen atom, an alkyl group containing 1 to 6 carbon atoms or an alkyl chain having 1 to 6 carbon atoms and containing a carboxylic, phosphonic or hydroxyl group, R_9 is a hydrogen atom, hydroxyl group, phosphonic group, carboxylic group or alkyl chain having 1 to 6 carbon atoms and containing one or two carboxylic groups, and R_{10} is a hydrogen atom, hydroxyl group, carboxylic group, alkyl group containing 1 to 6 carbon atoms or alkyl chain having 1 to 6 carbon atoms and containing a carboxylic group, or a salt thereof.

19. (Currently Amended) A composition comprising a chelating agent and a <u>single</u> polymer having the following general formula

$$R_1$$
 R_2
 R_2

wherein

R₁ is a hydrogen atom or an alkyl group containing 1 to 12 carbon atoms,

 R_2 is -COOM or $-CH_2COOM$,

M is a hydrogen atom, an alkali metal ion, an alkaline earth metal ion, an ammonium ion or a mixture thereof,

I

II

n, m and k are molar ratios of corresponding monomers, wherein n is 0 to 0.95, m is 0.05 to 0.9, and k is 0 to 0.8, and (n+m+k) equals 1, and

the weight average molecular weight is between 500 and 20,000,000 g/mol; and

wherein the weight ratio of the polymer to the chelating agent is from 1:4 to 4:1; and

wherein the chelating agent is

a compound having the following general formula

wherein

p is 0 or an integer of 1 to 10,

R₃, R₄, R₅, R₆ and R₇ are independently a hydrogen atom or an alkyl chain having 1 to 6 carbon atoms and containing an active chelating ligand; or

a compound having the following general formula

$$R_4$$
 N - $(CH_2)_q$ - N R_5 III

wherein

q is an integer of 3 to 10,

R₃, R₄, R₅ and R₆ are independently a hydrogen atom or an alkyl chain having 1 to 6 carbon atoms and containing an active chelating ligand; or

a compound having the following general formula

$$R_8 - C - R_{10}$$
 R_9
IV

wherein

R₈ is a hydrogen atom, an alkyl group containing 1 to 6 carbon atoms or an alkyl chain having 1 to 6 carbon atoms and containing a carboxylic, phosphonic or hydroxyl group,

 R_9 is a hydrogen atom, hydroxyl group, phosphonic group, carboxylic group or alkyl chain having 1 to 6 carbon atoms and containing one or two carboxylic groups, and

 R_{10} is a hydrogen atom, hydroxyl group, carboxylic group, alkyl group containing 1 to 6 carbon atoms or alkyl chain having 1 to 6 carbon atoms and containing a carboxylic group, or a salt thereof.

- 20. (Original) The composition according to claim 19 wherein in formula I n is 0.4 to 0.9, m is 0.1 to 0.5, and k is 0 to 0.5.
- 21. (Previously Presented) The composition according to claim 19 wherein the weight average molecular weight of the copolymer is between 1,000 and 1,000,000 g/mol.

22. (Cancelled)

- 23. (Previously Presented) The composition according to claim 19 wherein the polymer is a copolymer of 3-allyloxy-2-hydroxypropanesulfonic acid and at least one of acrylic acid, methacrylic acid, maleic acid, itaconic acid or a salt thereof.
- 24. (Previously Presented) The composition according to claim 19, wherein the chelating agent is a compound having the following general formula

$$\begin{array}{c|c}
R_4 & & \\
& & \\
R_3 & & \\
\end{array}$$

$$\begin{array}{c|c}
R_7 \\
P & \\
R_6 & \\
\end{array}$$

$$\begin{array}{c|c}
R_6 & \\
R_5 & \\
\end{array}$$

$$\begin{array}{c|c}
II & \\
\end{array}$$

wherein

p is 0 or an integer of 1 to 10,

R₃, R₄, R₅, R₆ and R₇ are independently a hydrogen atom or an alkyl chain having 1 to 6 carbon atoms and containing an active chelating ligand.

- 25. (Previously Presented) The process of claim 1, wherein treatment of the fibre material further comprises bleaching the fibre material in an aqueous medium.
- 26. (Previously Presented) The process of claim 1, wherein treatment of the fibre material further comprises deinking of a recycled fibre material.
- 27. (Previously Presented) The process of claim 1, wherein k is not zero and n is not zero.
- 28. (Previously Presented) The composition of claim 19, wherein k is not zero and n is not zero.